

Lever Head Probe
For Mu-Checker
MLH-327

en

Before using this product, read this User's Manual thoroughly to use this product correctly and maintain the optimal conditions for an extended period of time. After reading, retain this manual close at hand for future reference.

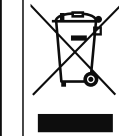
This product is used in combination with a display unit. For the correct use, refer to the User's Manual of the display unit as well.

Safety Precautions

To ensure operator safety, use this product in conformance with the directions, functions and specifications given in this User's Manual. Use under other conditions may compromise safety.

Cautions for Re-Export and Re-Sale of the Product, and Re-Provision of the Technology

This product falls into the Catch-All-Controlled Goods and/or Catch-All-Controlled Technologies (including Programs) under Category 16 of Appended Table 1 of Export Trade Control Order or under Category 16 of Appended Table of Foreign Exchange Control Order, based on Foreign Exchange and Foreign Trade Act of Japan. If you intend re-export of the product from a country other than Japan, re-sale of the product in a country other than Japan, or re-providing of the technology (including Programs), you shall observe the regulations of your country.



Disposal of Old Electrical & Electronic Equipment (Applicable in the European Countries with Separate Collection Systems)

This symbol on the product or on its packaging is based on WEEE Directive (Directive on Waste Electrical and Electronic Equipment), and this symbol indicates that this product shall not be treated as household waste. To reduce the environmental impact and minimize the volume of landfills, please cooperate in reuse and recycle. For how to dispose of the product, please contact the agent where you purchased the product or a Mitutoyo sales office.

CONVENTIONS USED IN THIS DOCUMENT

NOTICE	Indicates a situation which, if not avoided, may result in property damage.
Tips	Indicates further information and details relevant for the operating methods and procedures explained in that section.

Precautions for Use

- Never disassemble or modify this product.
- When using this product for the first time, be sure to perform gain adjustment by referring to the User's Manual of the display unit. Also, perform gain adjustment after you have replaced the contact point or after you have changed the angle of the contact point.
- Do not drop or apply excessive force to this product.
- Precise bearing construction is employed for this product. Avoid usage where heavy loads or impacts are applied at right angles along the sliding direction of the contact point. Otherwise, the bearings may be damaged.
- Do not forcibly bend the connecting cables.
- Do not use or store this product in the following locations:
 - Places subject to direct sunlight or are extremely hot or cold.
 - Places exposed to chips, machining oil, dust and dirt, and vibration.
 - Around devices that use high voltage or current. In particular, running cables close to the power cables of other devices can result in malfunction. Run cables at a distance from other power cables.

- Places exposed to magnetic fields, such as near a magnet. Using this product in such an environment can affect measured values.
- Using high-voltage equipment, such as an electric engraver pen may damage electrical parts.
- If this product is used under conditions other than those listed in the specifications, functions and performance cannot be guaranteed.
- To ensure accurate measurements, we recommend periodic calibration of Mu-checker (probe and display unit) in addition to timely gain adjustment of the display unit. Please contact the agent where you purchased the product or a Mitutoyo sales office to have calibration performed.

Electromagnetic Compatibility (EMC)

This product complies with the EMC Directive and the UK Electromagnetic Compability Regulations. However, if it is exposed to electromagnetic interference that exceeds the limits specified in these directives and regulations, the warranty will be invalidated and appropriate measures will be required.

China RoHS Compliance Information

This product meets China RoHS requirements. See the table below.

产品中有害物质的名称及含量		有害物质							
		铅	汞	镉	六价铬	多溴联苯	多溴二苯醚	邻苯二甲酸二正丁酯	邻苯二甲酸二异丁酯
部件名称	(Pb)	(Hg)	(Cd)	(Cr(VI))	(PBB)	(PBDE)	(DBP)	(DIBP)	(BBP)
本体	×	○	○	○	○	○	○	○	○
配件	○	○	○	○	○	○	○	○	○

本表格依据 SJ/T 11364 的规定编制。

○：表示该有害物质在该部件所有均质材料中的含量均在 GB/T 26572 规定的限量要求以下。

×：表示该有害物质至少在该部件的某一均质材料中的含量超出 GB/T 26572 规定的限量要求。



环保使用期限标识是根据《电器电子产品有害物质限制使用管理办法》以及《电器电子产品有害物质限制使用标识要求 (SJ/T11364—2024)》制定的，适用于中国境内销售的电子电气产品的标识。

电器电子产品只要按照安全及使用说明内容在正常使用情况下，从生产日期算起，在此期限内产品中含有的有毒有害物质不致发生外泄或突变，不致对环境造成严重污染或对其人身、财产造成严重损害。

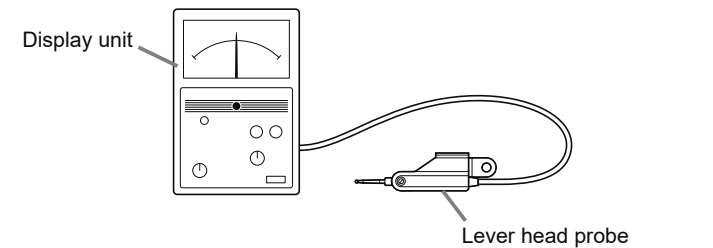
产品使用后，要废弃在环保使用年限内或者刚到年限的产品，请根据国家标准采取适当的方法进行处置。

另外，此期限不同于质量/功能的保证期限。

1. Overview

This product is a probe (detector) for Mitutoyo Mu-checker (electric micrometer).

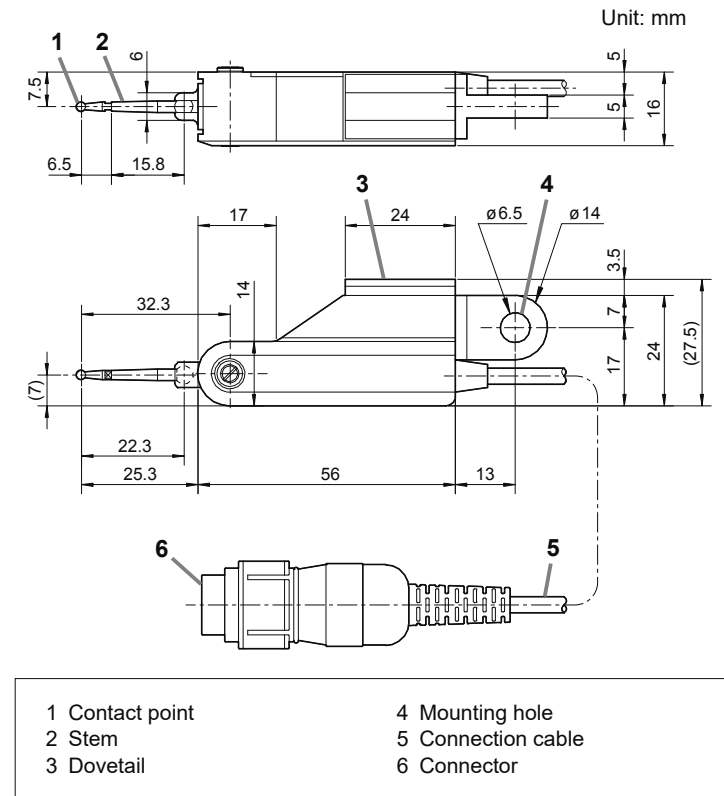
Since this product uses a no-clutch system, it is unnecessary to perform measurement direction (downwards/upwards) switching. A wide range of measurement applications are possible, such as the automatic measurement of run-out between the inner faces of a gap. It is used in combination with a display unit, available separately, as shown in the following figure.



2. Included Items

Part name	Specifications / Remarks	Q'ty	Part No.
Carbide contact point	Spherical diameter: ø2 (attached at shipment)	1	102825
Spanner	For changing the contact point	1	102037
User's Manual	This document	1	99MBC603B3

3. Names and Dimensions of Each Part



4. Cautions for Measuring

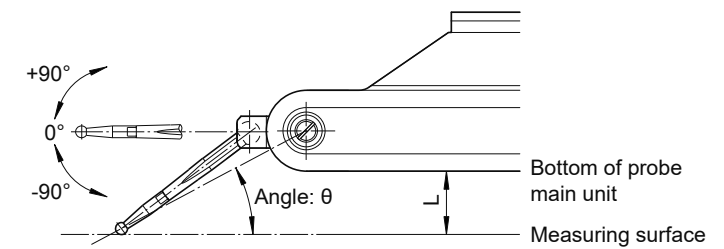
Inclination of the contact point

Ensure that the gain adjustment for the probe has been completed before measuring.

Furthermore, errors may occur in measured values when the inclination of the contact point is changed. For this reason, measurement should be made with the contact point inclined at the same angle as it was during gain adjustment. If this is difficult, do the gain adjustment with the contact point inclined at an angle of 0° and correct the measured value with a compensation factor that corresponds to the actual angle of inclination when a measurement is made (measured value × compensation factor).

Tips

Correction using a compensation factor is not as accurate as appropriate gain adjustment.



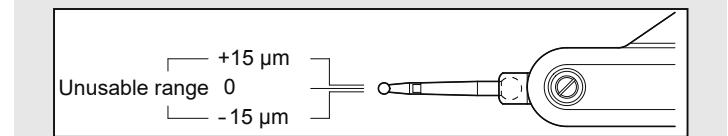
Angle: θ	Distance from measuring surface: L*1	Compensation factor
0°	—	1.00
10°	Approx. -0.42 mm	Approx. 0.98
20°	Approx. 4.8 mm	Approx. 0.94
30°	Approx. 9.3 mm	Approx. 0.87
40°	Approx. 12.8 mm	Approx. 0.77
50°	Approx. 15.2 mm	Approx. 0.64
60°	Approx. 16.4 mm	Approx. 0.50

*1 The listed values were obtained using a carbide contact point with a spherical diameter of ø2. If you use a carbide contact point (option) with a spherical diameter of ø1 (ø3), subtract (add) 1/2 of the difference with the ø2 spherical diameter.

Measurement start point

NOTICE

Regardless of the indication range of the display unit, do not start a measurement when the contact point is ±15 μm from the neutral position. The measuring force may be unstable in this range.



5. Maintenance

Changing the contact point

Change the contact point using the following procedure.

NOTICE

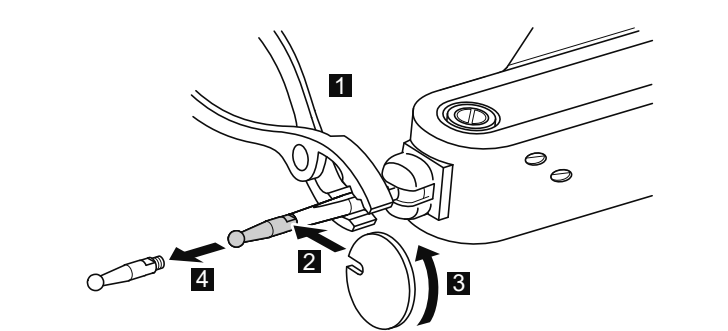
Do not fix the probe body in place while changing the contact point. If the probe body is fixed in place while you change the contact point, the fulcrum part of the stem swing will twist, and the bearing may be damaged. Damage to the bearing will adversely affect the stem swing and also may cause large errors in the measurement results.

- Hold the stem with pliers, etc.

Tips

Using pliers with plastic-covered blades or a soft cloth to cover the stem of the contact point when holding the stem with pliers will help avoid scratching the stem.

- Fit the opening of the supplied spanner on the notch of the contact point.
- Rotate the spanner counterclockwise to loosen the contact point.
- Remove the contact point.
- Attach a new contact point by reversing the removal procedure.



Cleaning

To remove dirt from the exterior, wipe the dirt off using a soft rag soaked in a diluted, neutral detergent and tightly wrung*1, making sure that no detergent remains on the product.

Do not dip this product into the water or cleaning agent, nor spray water or cleaning agents on to the product directly. Do not use organic solvents such as acetone or thinner.

*1 Wrung enough so that water will not get inside the product.

Other maintenance

Lubricant is used in each moving part of this product. If movement has deteriorated considerably, contact the agent where you purchased the product or a Mitutoyo sales office for repair.

6. Specifications

	MLH-327
Code No.	519-327
Measuring range	±0.5 mm*1
Stroke	±0.65 mm
Linearity (20 °C)	±0.5 %*2
Contact point	ø2 carbide contact point (setting screw: M1.4 × 0.3)
Measuring force	Approx. 0.15 N
Measurement direction switching	Unnecessary (no-clutch system)
Measuring system	Linear voltage differential transformer (half-bridge)
Construction of bearing section	Pivot bearing method
Length of connection cables	2 m (directly extended from the body)
Operating temperature (humidity)	0 °C—40 °C (20 %—80 % RH, without condensation)
Storage temperature (humidity)	-10 °C—60 °C (20 %—80 % RH, without condensation)
Mass	Approx. 140 g
CE marking/ UKCA marking	EMC Directive/Electromagnetic Compatibility Regulations: EN 61326-1 Immunity test requirement: Clause 6.2 Table 2 Emission limit: Class B RoHS Directive/The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations: EN IEC 63000

- *1 Due to the no-clutch system construction, measuring force in the range of ±15 μm from the neutral position is unstable. Because of this, the measurement range and linearity ±0.5% accuracy range do not apply to such measurement in the range.
- *2 This value was obtained using a Mitutoyo measurement method and is valid within the measuring range; it does not include effects due to temperature change.

7. Options

	Part name	Part No.
Interchangeable stylus	ø1 carbide contact point	102824
	ø3 carbide contact point	102826
Stem	ø4 dovetail-grooved stem	21CZB131
	ø6 dovetail-grooved stem	21CZB128
	ø8 dovetail-grooved stem	21CZB129
	ø9.52 dovetail-grooved stem	21CZB130
Clamp	For ø6 / ø8 dovetail-grooved stem	902053
	For ø6 / ø9.52 dovetail-grooved stem	900320
Holder	Holder arm A (Square 9 × 9 × 100)	900209
	Holder arm (Square 9 × 9 × 50)	953638

